it passes between the tips of the oblique muscles. The pigmented granular hypodermic (?) area at the inner border of each ventral longitudinal muscle is also distinct. The ventral cuticle is very thick. The radiate fibres of the proboscis are coarser in texture and show the differentiation at each end formerly alluded to. The peritoneal corpuscles abound at the basis of the branchial processes, and on section are seen to pass out of the tip. In both this and the former the dorsal longitudinal muscles meet as a thin stratum over the dorsal arch.

Thalenessa fimbriata, n. sp. (Pl. XIX. fig. 10; Pl. XXIII. fig. 4; Pl. XXIV. fig. 5; Pl. XXV. figs. 1, 2; Pl. XIIIA. fig. 13).

Habitat.—A single fragmentary specimen was dredged at Station 163B (off Port Jackson), June 3, 1874; lat. 33° 51′ S., long. 151° 22′ E.; bottom temperature 63°·0, surface temperature 69°·0; depth, 30 to 35 fathoms; sea-bottom, hard ground.

A somewhat small form in fragments, measuring, in all, more than 30 mm., and with a transverse diameter of 4 mm., including the bristles.

The head is covered by the first pair of scales and partly by the nuchal fold posteriorly. The eyes are formed on the same type as the preceding, and the pairs on each side are almost synophthalmic, and, moreover, the line of separation is nearly straight. The pigment of the anterior pair is somewhat triangular in outline, with the apex directed forward, and it is less dense than in the boldly marked posterior eyes. A short median tentacle alone remains, the small antennæ probably having been removed in the dredge. The palpi are as long and finely tapered as in the foregoing species, and quite smooth. Their cuticle is very dense, and presents a closely arranged series of fine transverse lines.

The first pair of scales are nearly circular, and perfectly smooth on surface and margin. The scales do not cover the dorsum anteriorly. They are marked by a nut-brown pigment along their anterior and posterior margins. Their external (or inferior) border has (Pl. XXV. fig. 1) numerous fimbriate papillæ, which, behind the anterior third of the body, have often more than a dozen filiform divisions. A short and thick main stem (Pl. XXV. fig. 2) springs from the border of the scale and soon breaks up dichotomously or irregularly into the filamentous processes, which have a different character from those of the preceding form. The scales are rounder in front, more or less reniform posteriorly.

The dorsal branch of the foot (Pl. XXIV. fig. 5) carries a series of somewhat short bristles, boldly spinous. In the anterior region of the body both this and the ventral division have numerous digitate papillæ of considerable size. The inferior bristles in the same region present superiorly a few with double-jointed extremities, the rest